

Appendix B

A copy of the original claims of 24 September 2003 (Pub: US 2005/0065805)

- 5 What is claimed is:
1. An operations, management, capacity, and services (OMCS) tool comprising: a means for analyzing business parameters for a plurality of network architectures; and a means for comparing the business parameters for said network architectures for determining cost savings of one network architecture
10 versus another and for determining a business solution that articulates the network architecture for reducing total expenditure.
 2. A tool as described in claim 1, wherein the business parameters comprise the total expenditure; and wherein the total expenditure comprises capital
15 expenditure (CAPEX) and operational expenditure (OPEX).
 3. A tool as described in claim 2, wherein the CAPEX comprises a network architecture cost, taxes, interests, and depreciation and amortization (D/A) expenses; and the OPEX comprises a management processes cost, a leasing
20 cost, and sales, general and administration (SG&A) expenses.
 4. A tool as described in claim 2, wherein the business parameters further comprise revenue; capacity; return on investment (ROI); earnings before interest, taxes, and depreciation and amortization (EBITDA); earnings before
25 interest and taxes (EBIT); OPEX as percentage of revenue; and total expenditure as percentage of revenue.
 5. A tool as described in claim 1, wherein the means for analyzing the business parameters comprises a means for analyzing the business parameters for a
30 network architecture having one or more of the following technology: TDM, ATM, FR, IP, VPN, MPLS, and optical Ethernet including fiber, SONET, RPR, and DWDM.

6. A tool as described in claim 5, wherein the means for analyzing the business parameters for the plurality of network architectures comprises a means for computing the business parameters for each of said network architectures over a pre-determined study period.
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7. A tool as described in claim 6, wherein the means for comparing the business parameters for the plurality of network architectures comprises a means for reporting the business parameters for each of said network architectures over said pre-determined study period; and wherein the business solution comprises
- 10 the network architecture with the least total expenditure.
8. A tool as described in claim 3, further comprises: a means for engineering a plurality of network architectures for a pre-determined input user data; a means for determining a network architecture cost and a leasing cost for each of said
- 15 network architectures over a predetermined study period; a means for engineering management processes for managing each of said network architectures; and a means for determining a management processes cost for said management processes over said predetermined study period.
- 20 9. A tool as described in claim 8, further comprises: a means for inputting user data; and a means for validating and calibrating the input user data; the network architecture cost; the leasing cost; and the management processes cost for each of said network architectures.
- 25 10. A tool as described in claim 8, wherein the means for engineering the plurality of network architectures comprises a means for determining an owned network elements (NEs) count; a leased NEs count; an owned customer premise equipment (CPE) count; a leased CPE count; an owned links count; a leased links count; and a leased ports count for each of said network architectures; and
- 30 wherein said network architectures having NEs, CPE, and links from the same or different equipment suppliers.

11. A tool as described in claim 10, wherein the means for determining the network architecture cost and the leasing cost for each of the plurality of network architectures comprises: a means for determining a price per network element (NE), a footprint per NE cost, and a power consumption per NE cost; a means
5 for determining a price per CPE, a footprint per CPE cost, and a power consumption per CPE cost; and a means for determining a price per link and a link transmission rate.
12. A tool as described in claim 11, wherein the means for determining the network architecture cost comprises a means for computing a total owned NEs cost; a total owned CPE cost; and a total owned links cost for each of said network architectures over said pre-determined study period; and wherein the means for determining the leasing cost comprises a means for computing a total footprints cost and a total power consumptions cost for said owned NEs and CPE over
15 said pre-determined study period.
13. A tool as described in claim 10, wherein the means for determining the leasing cost further comprises: a means for determining a leased per NE cost, a footprint per NE cost, and a power consumption per NE cost; a means for determining a leased per CPE cost, a footprint per CPE cost, and a power consumption per
20 CPE cost; a means for determining a leased per link cost and a link transmission rate; a means for determining a leased link per unit length cost, a unit length per link count, and a link transmission rate; and a means for determining a leased per port cost.
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14. A tool as described in claim 13, wherein the means for determining the leasing cost comprises a means for computing a total leased NEs cost; a total leased CPE cost; a total footprints cost and a total power consumptions cost for said leased NEs and CPE; a total leased links cost; a total leased links for unit length
30 cost; and a total leased ports cost for each of said network architectures over said pre-determined study period.

15. A tool as described in claim 8, wherein the means for engineering the management processes comprises means for engineering network management processes, and service and customer management processes; and wherein said management processes having processes from the same or different management processes suppliers.
16. A tool as described in claim 15, wherein the means for engineering network management processes comprises a means for selecting one or more of the following processes: inside plant maintenance; outside plant maintenance; network engineering; network provisioning; installation; testing; and repairs.
17. A tool as described in claim 16, wherein the means for determining the management processes cost comprises a means for determining a process cost per NE for each of said network management processes for one or more of the following: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.
18. A tool as described in claim 15, wherein the means for engineering service and customer management processes comprises a means for selecting one or more of the following processes: customer relationship management (CRM); work order management (WOM); network inventory management (NDI); service activation and provisioning (SAP); fault management (FM); performance management (PM); accounting and billing; and security management.
19. A tool as described in claim 18, wherein the means for determining the management processes cost comprises a means for determining a process cost per link for each of said service and customer management processes for one or more of the following: a manual operations mode; a mechanized operations mode; and a manual and mechanized operations mode.
20. A computer program containing instructions for directing a computer to perform a process for analyzing business parameters for a plurality of network

architectures, and comparing the business parameters for said network architectures over a pre-determined study period, the program comprising: a means for causing the computer to receive data for the plurality of network architectures; a means for causing the computer to analyze the received data to compute the business parameters for said network architectures; and a means for causing the computer to compare said computed business parameters for said network architectures for determining cost savings of one network architecture versus another and for determining a business solution that articulates the network architecture for reducing total expenditure.

21. A program as described in claim 20, wherein the means for causing the computer to receive the data for the plurality of network architectures comprises: a means for causing the computer to receive input user data for said network architectures; a means for causing the computer to receive network architectures data for said network architectures; and a means for causing the computer to receive management processes data for managing each of said network architectures.

22. A program as described in claim 21, wherein the means for causing the computer to receive the input user data comprises a means for causing the computer to receive traffic data; customer data; and financial and labour data for the plurality of network architectures.

23. A program as described in claim 21, wherein the means for causing the computer to receive the network architectures data comprises means for causing the computer to receive network elements (NEs) data; CPE data; and links and ports data for the plurality of network architectures.

24. A program as described in claim 23, wherein the means for causing the computer to receive the network architectures data further comprises a means for causing the computer to receive network architectures options for the plurality of network architectures.

25. A program as described in claim 21, wherein the means for causing the computer to receive the management processes data comprises means for causing the computer to receive network management data; and service and customer management data for managing each of the plurality of network architectures.
26. A program as described in claim 25, wherein the means for causing the computer to receive the management processes data further comprises means for causing the computer to receive network management options; and service and customer management options for managing each of said network architectures.
27. A program as described in claim 20, wherein the means for causing the computer to analyze the received data comprises a means for causing the computer to compute the business parameters for said network architectures over said pre-determined study period.
28. A program as described in claim 20, wherein the means for causing the computer to compare said business parameters for said network architectures comprises a means for causing the computer to tabulate and graphically chart the business parameters for said network architectures over said pre-determined study period.
29. A computer program as described in claim 20, wherein the program is a self-contained Microsoft EXCEL-based decision support software tool comprises a plurality of EXCEL workbooks linked together.
30. A computer program as described in claim 20, wherein the program is a self-contained software tool comprises a number of sub-programs linked together and the sub-programs are written in one or more of the following computer languages: machine language, C/C++, virtual basic, and Java.

31. A method for developing business solution for a telecommunications network, the method comprising the steps of: receiving data for a plurality of network architectures; analyzing the received data to compute business parameters for said network architectures; and comparing said computed business parameters
5 for said network architectures for determining cost savings of one network architecture versus another and for determining a business solution that articulates the network architecture for reducing total expenditure.
32. A method as described in claim 31, wherein the business parameters comprise
10 the total expenditure; and wherein the total expenditure comprises CAPEX and OPEX.
33. A method as described in claim 32, wherein the business parameters further
15 comprise revenue, capacity, ROI, EBITDA, EBIT, OPEX as percentage of revenue, and total expenditure as percentage of revenue.
34. A method as described in claim 31, wherein the step of receiving data comprises
20 a step of receiving input user data; network architectures data; management processes data; network architectures options; network management processes options; and service and customer management processes options for the plurality of network architectures.
35. A method as described in claim 31, wherein the step of analyzing the business
25 parameters comprises a step of analyzing the business parameters for a network architecture having one or more of the following technology: TDM, ATM, FR, IP, VPN, MPLS, and optical Ethernet including fiber, SONET, RPR, and DWDM.
36. A method as described in claim 35, wherein the step of analyzing the business
30 parameters comprises a step of adjusting and updating data for said network architectures.

37. A method as described in claim 31, wherein the step of comparing the business parameters for the plurality of network architectures comprises a step of reporting said business parameters for said network architectures over a pre-determined study period; and wherein the business solution comprises the network architecture with the least total expenditure, and said network architecture having NEs, CPE, and links from the same or different equipment suppliers; and having network management processes, and service and customer management processes from the same or different management processes suppliers.
38. A method as described in claim 37, wherein the step of reporting the business parameters comprises a step of tabulating and graphically charting the business parameters for each of said network architectures over said pre-determined study period.